



CREOSOTE

CAS # 8021-39-4, 8001-58-9, and 8007-45-2

Agency for Toxic Substances and Disease Registry ToxFAQs

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This fact sheet answers the most frequently asked health questions (FAQs) about creosote. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Creosote is a mixture of many chemicals. Eating food or drinking water with high levels of creosote may cause burning in the mouth, and throat, stomach pains, severe skin irritation, convulsions, and kidney and liver problems. Creosote has been found in at least 33 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is creosote?

(Pronounced krē'ə-sōt')

Creosote is the name used for a variety of products: wood creosote, coal tar creosote, coal tar, coal tar pitch, and coal tar pitch volatiles. These products are mixtures of many chemicals created by high-temperature treatment of beech and other woods, coal, or from the resin of the creosote bush.

Wood creosote is a colorless to yellowish greasy liquid with a smoky odor and burned taste. Coal tar creosote is a thick, oily liquid that is typically amber to black in color. Coal tar and coal tar pitch are usually thick, black, or dark-brown liquids or semisolids with a smoky odor.

Wood creosote has been used as a disinfectant, a laxative, and a cough treatment, but is rarely used these ways today. Coal tar products are used in medicines to treat skin diseases such as psoriasis, and are also used as animal and bird repellents, insecticides, restricted pesticides, animal dips, and fungicides. Coal tar creosote is the most widely used wood preservative in the United States. Coal tar, coal tar pitch, and coal tar pitch volatiles are used for roofing, road paving, aluminum smelting, and coking.

What happens to creosote when it enters the environment?

- ☐ Coal tar creosote is released to water and soil mainly as a result of its use in the wood preservation industry.

- ☐ Coal tar creosote may dissolve in water and may move through the soil to the groundwater.
- ☐ Once it is in the groundwater, it may take many years for it to break down.
- ☐ Coal tar creosote can build up in plants and animals.
- ☐ No information is available on what happens to wood creosote when it enters the environment.

How might I be exposed to creosote?

- ☐ Eating herbal remedies containing the leaves from the creosote bush (chaparral) which are sold as dietary supplements.
- ☐ Working in the wood preservative, coke-producing, or asphalt industries.
- ☐ Using creosote-treated wood in building fences, bridges, or railroad tracks, or installing telephone poles.
- ☐ Living in treated-wood houses that may result in air or skin contact with creosote.
- ☐ Drinking water contaminated by a hazardous waste site.

How can creosote affect my health?

Breathing vapors of the creosotes, coal tar, coal tar pitch, or coal tar pitch volatiles can cause irritation of the respiratory tract. Eating large amounts of creosote (any form) may cause a burning in the mouth and throat and stomach pains. Eating large amounts of herbal remedies containing creosote bush leaves may cause liver damage, while large amounts of coal tar

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creosote may result in severe skin irritation, eye burns, convulsions, unconsciousness, and even death.

Long-term (365 days or longer) exposure to lower levels of coal tar creosote, coal tar, coal tar pitch, or coal tar pitch volatiles by skin or air contact can cause skin damage such as blistering or peeling.

Animals fed large amounts of wood creosote had convulsions and died, while those fed lower levels had liver and kidney problems. Animal studies have shown that when pregnant animals breathe creosote, it may cause harmful effects to the baby.

How likely is creosote to cause cancer?

Long-term exposure, especially direct contact with skin during wood treatment or manufacture of coal tar creosote-treated products, to low levels of creosote has resulted in skin cancer and cancer of the scrotum. Cancer of the scrotum in chimney sweeps has been associated with long-term skin exposure to soot and coal tar creosotes. Animal studies have also shown skin cancer from skin exposure to coal tar products.

The International Agency for Research on Cancer (IARC) has determined that coal tar creosote is probably carcinogenic to humans. The EPA has also determined that coal tar creosote is a probable human carcinogen.

Is there a medical test to show whether I've been exposed to creosote?

There is no medical test to determine if you have been exposed to creosote. However, some chemicals found in coal tar products can be found measured in body tissues. Urine tests are commonly done for employees in industries that work with coal tar creosote, coal tar, and coal tar pitch.

This test isn't available at most doctors' offices, but can be done at special laboratories that have the right equipment. These tests can confirm that you have been exposed to chemi-

cals found in coal tar creosote and other coal tar products, but cannot predict whether you will experience any health effects.

Has the federal government made recommendations to protect human health?

The EPA requires that spills or accidental releases into the environment of 1 pound or more of creosote be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 0.2 milligrams of coal tar pitch volatiles per cubic meter of air (0.2 mg/m³) in the workplace during an 8-hour workday, 40-hour workweek. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends the same level for coal tar pitch volatiles. The National Institute for Occupational Safety and Health (NIOSH) recommends a maximum level of 0.1 mg/m³ of coal tar pitch volatiles for a 10-hour workday, 40-hour workweek.

Glossary

Carcinogenic: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Insecticide: A substance that kills insects.

Pesticide: A substance that kills pests.

Volatile: To easily change into a vapor or a gas.

Source of Information

This ToxFAQs information is taken from the 1996 Toxicological Profile for Creosote produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Animal testing is sometimes necessary to find out how toxic substances might harm people and how to treat people who have been exposed. Laws today protect the welfare of research animals and scientists must follow strict guidelines.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-639-6359. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

